

## II. 1997 Bald Eagle Nesting Activity and Productivity

In 1997, we completed activity and productivity surveys at 46 of the 47 known bald eagle breeding areas within the Southeast Idaho portion of the Greater Yellowstone Ecosystem (GYE). The two additional breeding areas over those reported in 1996 arose from reevaluation of nesting behavior at nest sites on Palisades Reservoir. Overall, the ratio of young produced per occupied breeding area (outcome known) was 1.10. Results of activity and productivity surveys at each breeding area were reported earlier (Whitfield et al. 1997).

In 1997, despite another wet spring, bald eagle productivity at Idaho sites was relatively good at lower elevations. Of 29 known breeding areas in the Snake Idaho unit, 26 were occupied and 24 were active. (Activity and productivity outcome were unknown at the site on Ririe Reservoir. Cartier Slough was active, but success was unknown. These areas were excluded from ratios.) In the Snake Idaho population unit, for sites with known productivity, a total of 33 young were produced at 25 occupied, 23 active, and 20 successful sites, for productivity ratios of 1.32 advanced young/occupied site, 1.43 advanced young/active site, and 1.65 advanced young/successful site. (Some advanced young at lower river nest sites may not have survived extremely high flood water in later June; it was not possible to observe these sites immediately post-fledging.)

In the Continental Idaho unit, 17 of 18 known breeding areas were occupied, and 14 were active. Thirteen young were produced at 7 successful sites, for productivity ratios of 0.76 advanced young/occupied site, 0.93 advanced young/active site, and 1.86 advanced young/successful site.

Two bald eagle pairs nested in sites that forced reanalysis of breeding area status for prior years. On Palisades Reservoir, two separate pairs nested in what had formerly been reported as alternate nests for the Hoffman breeding area. A similar event occurred at Van Point. Nine established pairs built new alternate nests, and three pairs switched to alternate nests used prior to last year. Two of these alternates, within the general area of the Confluence and Riverside breeding areas, may actually be new pairs.

In 1997 we observed 3 banded adults, 2 banded as nestlings and 1 as an adult in GYE/Idaho. In 1997, 15 nestlings were banded with numbered FWS leg bands on the right leg and color bands with stamped two digit alphanumeric codes on the left leg.

**Table 3. Activity and productivity status for bald eagle breeding territories within the Idaho portion of the Greater Yellowstone Ecosystem, 1997.**

Portion of the Great-Tern Population's Ecosystem, 1997:					
<u>TERRITORY NAME</u>	<u>TERRITORY NUMBER</u>	<u>PRODUCTIVITY STATUS</u>	<u>NUMBER ADVANCED YOUNG</u>	<u>NUMBER YOUNG BANDED</u>	<u>COMMENTS</u>
PALISADES RESERVOIR AREA					
Hoffman	18-IS-01	Active, Successful	1	1	
Hoffman West	18-IS-28	Active, Successful	2	2	New territory or King Creek alternate.
Williams Creek	18-IS-02	Occupied, inactive	0	0	
Van Point	18-IS-03	Active, Successful	1	0	
Van Point South	18-IS-29	Active, Successful	1	1	New territory or Edwards Cr. alternate.
Edwards Creek	18-IS-17	Unoccupied	0	0	
King Creek	18-IS-18	Unoccupied	0	0	
SOUTH FORK SNAKE RIVER					
Palisades Creek	18-IS-04	Active, Unsuccessful	0	0	
Swan Valley	18-IS-05	Occupied, Inactive	0	0	
Conant Valley	18-IS-06	Active, Successful	2	0	
Pine Creek	18-IS-07	Active, Successful	1	0	
Dry Canyon	18-IS-08	Active, Unsuccessful	0	0	
Gormer Canyon	18-IS-09	Active, Successful	3	3	
Wolverine	18-IS-10	Active, Successful	2	0	
Antelope Creek	18-IS-11	Active, Successful	1	0	
Cress Creek	18-IS-12	Active, Successful	2	0	
Five Ways	18-IS-24	Active, Successful	2	0	
Clark Hill	18-IS-25	Active, Successful	1	0	1 advanced nestling died at fledging.
MAIN SNAKE RIVER					
Confluence	18-IS-13	Active, Unsuccessful	0	0	New alt., Dry Bed
Market Lake	18-IS-22	Active, Successful	1	0	
LOWER SOUTH FORK, HENRY'S FORK, FALL RIVER					
Menan Buttes	18-IS-20	Active, Successful	1	0	New alternate.
Ririe Reservoir	18-IS-26	Unknown			
Annis Slough	18-IS-27	Active, Successful	2	0	New alternate (old nest blew down).

**Table 3. Activity and productivity status for bald eagle breeding territories within the Idaho portion of the Greater Yellowstone Ecosystem, 1997 (cont.).**

<u>TERRITORY NAME</u>	<u>TERRITORY NUMBER</u>	<u>PRODUCTIVITY STATUS</u>	<u>NUMBER ADVANCED YOUNG</u>	<u>NUMBER YOUNG BANDED</u>	<u>COMMENTS</u>
Cartier Slough	18-IS-14	Active, unknown	?	?	New alternate.
St. Anthony	18-IS-15	Active, Successful	2	0	
Singleton	18-IS-16	Active, Successful	1	0	New alternate (old nest blew down).
Lower Fall River	18-IS-19	Active, Successful	2	0	
<b>TETON RIVER, SNAKE UNIT</b>					
Upper Teton	18-IS-21	Active, Successful	3	0	
Hog Hollow	18-IS-23	Active, Successful	2	0	
<b>CONTINENTAL UNIT, UPPER HENRY'S FORK SNAKE RIVER</b>					
Kerr Canyon	18-IC-01	Active, successful	1	0	
Pine Haven	18-IC-02	Occupied, Inactive	0	0	
Box Canyon	18-IC-03	Occupied, Inactive	0	0	
Coffee Pot	18-IC-04	Occupied, Inactive	0	0	
Bishop Lake	18-IC-05	Active, Successful	3	3	
Sheridan	18-IC-06	Active, Unsuccessful	0	0	New alternate.
Lucky Dog	18-IC-07	Active, Unsuccessful	0	0	
Henry's Lake	18-IC-08	Active, Unsuccessful	0	0	
Staley Springs- Targhee Creek	18-IC-09	Active, Successful	2	2	
Hale Canyon	18-IC-10	Active, Successful	2	2	
Moonshine	18-IC-11	Active, Unsuccessful	0	0	Nest blowdown.
Last Chance	18-IC-12	Active, Successful	2	1	
IP Bills	18-IC-13	Active, Unsuccessful	0	0	
Flat Rock	18-IC-14	Active, Unsuccessful	0	0	
Riverside or Mesa Falls	18-IC-15	Active, Successful	1	0	New territory or Riverside alternate
Snake River Butte	18-IC-16	Active, Unsuccessful	0	0	
Buffalo River	18-IC-17	Unoccupied	0	0	
Big Bend	18-IC-18	Active, Successful	2	0	New alt., Nest blew out post-fledging.

**Table 3. Activity and productivity status for bald eagle breeding territories within the Idaho portion of the Greater Yellowstone Ecosystem, 1997 (cont.).****Summary Statistics:**Total number nesting territories: 47      Advanced young/occupied nest<sup>1</sup>: 1.10

Number occupied territories, success known: 42

Number active territories, success known: 37      Advanced young/active nest<sup>1</sup>: 1.24

Number successful territories: 27

Number advanced young: 46      Advanced young/successful nest<sup>1</sup>: 1.70<sup>1</sup> Excludes Cartier Slough, 18-IS-14, an active nesting area where productivity outcome was unknown, and Ririe Reservoir, 18-IS-26, where activity and productivity were unknown.

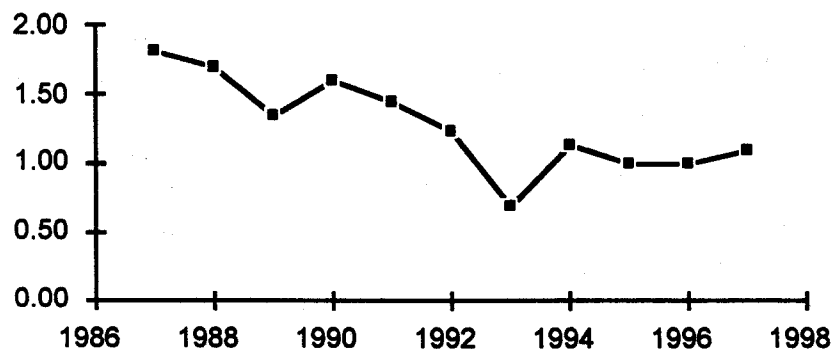
### III. Trends in Bald Eagle Productivity.

Since 1987, productivity monitoring in this region has been intensive enough to suggest that almost all nesting areas were accounted for each year. Table 4 and figure 2 provide a sense of productivity trends over this period. The number of nesting areas and total number of young produced has increased dramatically, whereas the per pair productivity rate appears to have gradually declined. Productivity since 1993 has been consistently around 1 young/occupied nest, a relatively low level. Three of four recent years have featured wet spring weather, which appears to strongly influence nesting success, particularly in the higher elevations. Reservoir water level fluctuations have also impacted nest sites at Palisades and Island Park Reservoirs. Several formerly productive sites, as discussed below, are no longer successful due to recreational development near nest sites. The general trend in productivity decline may also be due, in part, to saturation of available habitat by adult bald eagles as the overall nesting population continues to grow. Analysis of long-term productivity effects is ongoing.

**Table 4. Historic trends in bald eagle productivity at nesting areas in Eastern Idaho, the Idaho portion of the Greater Yellowstone Ecosystem, 1987-1997.**

<u>Year</u>	<u>Advanced young/occupied nest (productivity known)</u>
1987	1.80 (n = 20)
1988	1.70 (n = 23)
1989	1.35 (n = 26)
1990	1.59 (n = 27)
1991	1.45 (n = 31)
1992	1.23 (n = 35)
1993	0.69 (n = 35)
1994	1.13 (n = 38)
1995	1.00 (n = 39)
1996	1.00 (n = 43)
1997	1.10 (n = 42)

**Figure 2. Trend in bald eagle productivity at nesting areas in East Idaho, the Idaho portion of the Greater Yellowstone Ecosystem, 1987-1997.**



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## Problem Areas

As indicated in our report of 1995 observations (Whitfield and Maj 1996), several bald eagle breeding areas with long, productive nesting histories have been nonproductive in recent years. Below, we provide a 1996-97 update for these identified breeding areas.

Henry's Lake, the oldest known bald eagle breeding area in Eastern Idaho, fledged 29 young bald eagles between 1976 and 1992. However, in 1993-96, we have not observed nesting attempts in the known breeding area. No adults were seen in the historic nesting area in 1996. M. Maj found no bald eagles in the vicinity of the historic nest sites on 5/22/96. Beginning at dawn, A. Whitfield spent 8.5 hours in the nest vicinity on 7/7, with the hope of detecting an adult moving through the area. He watched from the high ridge top to the north of the historic nest, and also walked through the nest area, but saw no bald eagles. In 1997, the pair incubated on alternate nest #2, but apparently failed early in the nesting season. Growth in a summer home subdivision near the known nests, with ongoing summer home construction, and a great increase in year-round human use of the primary nest area, may be the cause of this lack of productivity. During early spring surveys in recent years, we have noted evidence of a high volume of snowmachine and four-wheeler traffic in the nest stand. In 1994-1997, the bald eagle study team has searched other Douglas fir stands throughout the home range for potential new alternate nests, but none were located. In 1997, the team noted well defined human trails that pass directly below the known alternate nests.

Before 1992, the Pine Haven breeding area on the Henry's Fork was notably productive. In 1992-97, no active nesting has been detected within this breeding area. Following a pattern noted in recent years, single adult bald eagles were seen perched near the known nests in 1996 and 1997. In recent years, a new river-side lodge, increased summer home development in this stretch of the river, increased river traffic, and recreational activities on the river bank opposite the nests likely contribute to the pair's abandonment of the known nest sites. The bald eagle team and Targhee National Forest volunteers have searched for new nest areas without success. We have also not detected young of the year at traditional foraging areas in later summer when we might suspect that fledged young would be in these areas.

The Box Canyon and I. P. Bill's breeding areas on Island Park Reservoir should be monitored closely because of development of a new subdivision in their vicinity. In 1996, an adult pair thought to be the Box Canyon pair were seen several times on historically used perches near alternate nests and foraging sites, but no active nest nor young eagles were noted. The I. P. Bill's pair built a new alternate in a large Douglas fir about 75 yards to the southwest of the historic nest site, and produced one advanced nestling in 1996. Nesting attempts were unsuccessful in both of these areas in 1997. Developers greatly upgraded road access into this area in late summer 1996, and are expected to soon begin development of over 80 subdivision lots. The area to be developed includes the favored foraging areas used by the Box Canyon pair. The I. P. Bill's pair forages primarily in areas farther to the west, but the nest site is within

approximately 500 meters of the development, and will likely be affected by increased human activity.

A nest was first built within the Swan Valley breeding area in 1967, the oldest reestablished breeding area on the South Fork. In 4 of 5 years from 1989 to 1993, no young were produced at the historic nest. This pair moved downriver to a less disturbed area in 1994, and produced young in 1995 and 1996. However, in mid-summer 1996, a new house and gravel pit were developed near this alternate within a recently platted subdivision. No nesting attempt was observed in 1997, although adult balds were in the breeding area. Development of subdivisions near all of the historic nests in this breeding area is underway, and it now appears that the Swan Valley pair will be forced to nest on the west side of the river if they are to produce young.

From 1988 to 1995, the Palisades Creek breeding area had the highest mean productivity of any site in Eastern Idaho (18 young produced 1988-1995, annual average of 2.25 fledged young). The vicinity of the Palisades Creek nest was entirely platted for subdivision in late 1995 and early 1996. Human use of the nest area increased dramatically in late 1995 and early 1996 as surveyors and planners prepared subdivision plots. The nest failed early in the 1996 breeding season, the first failure at this site in 9 years of known nesting at this site. In 1997, the pair again incubated, but failed at near hatching. Future construction within these subdivisions will at best force the pair to nest away from the activity on the opposite side of the river, and may eliminate this productive breeding area entirely.

A new subdivision was approved for most of the west side of the river in 1996 in the immediate vicinity of the Conant Valley nest used in most years since the late 1970s (29 young produced since 1982). As at the Palisades Creek breeding area, the vicinity of the Conant Valley nest used since 1988 was frequently visited by surveyors and others during the fall and winter of 1995. As has occasionally occurred in prior years, this pair nested on the large island on the opposite side of the main channel in 1996 and 1997, where two young were produced each year. Should this subdivision be ultimately developed, this bald eagle pair will be forced to alter its activity distribution. The area planned for subdivision features two known alternate nest sites and very important foraging habitat used by adult bald eagles in the Conant Valley breeding area.

#### **IV. Bald Eagle Breeding Areas, Preliminary Key Use Identification, 1996**

We provide preliminary habitat use information collected in summer 1996 for two bald eagle breeding areas, Kerr Canyon (18-IC-01) and Hale Canyon (18-IC-10). We have not completed intensive observations within these breeding areas, and do not know the complete extent of foraging area and home range use. We do provide a summary of breeding area history and productivity, nesting chronology, occupied nest zones, and comments on known foraging and perching areas and breeding area habitat quality. Our maps provide a preliminary view of the key use area for each breeding area.